

# **AQUACULTURE IN THE UNITED STATES**

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**Conrad Mahnken  
NOAA Aquaculture Coordinator  
State Directors Meeting  
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# *Aquaculture in the United States*

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- Aquaculture: An Increasingly Important Global Tool
- Constraints to Aquaculture Development in the United States
- NOAA Plan for Aquaculture Development in the United States

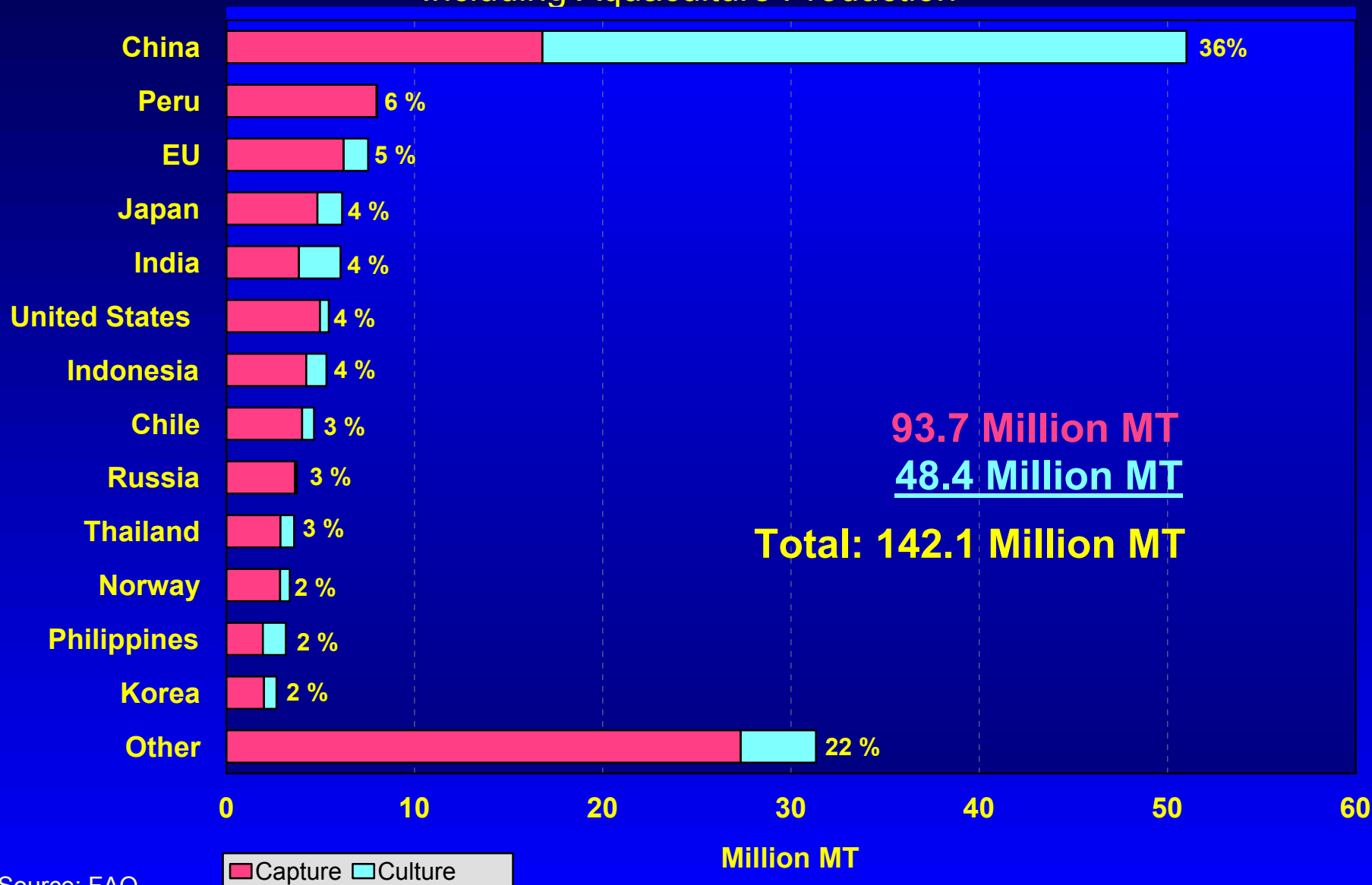
# *Aquaculture: An increasingly Important Global Tool*

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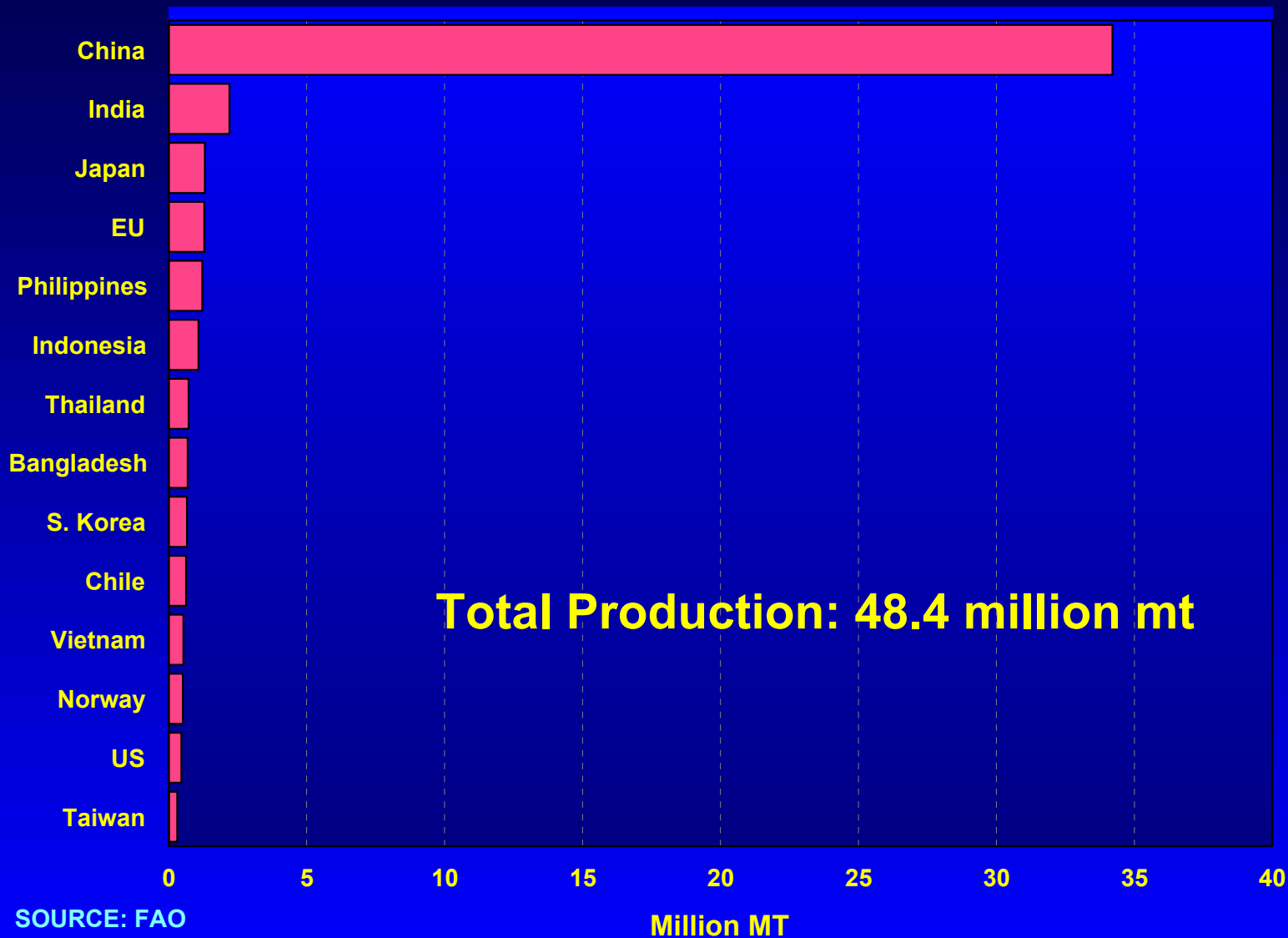
- Global Seafood Production
- U.S. Seafood Production
- Stock Enhancement

# TOP FISHERIES PRODUCERS, 2001

Including Aquaculture Production

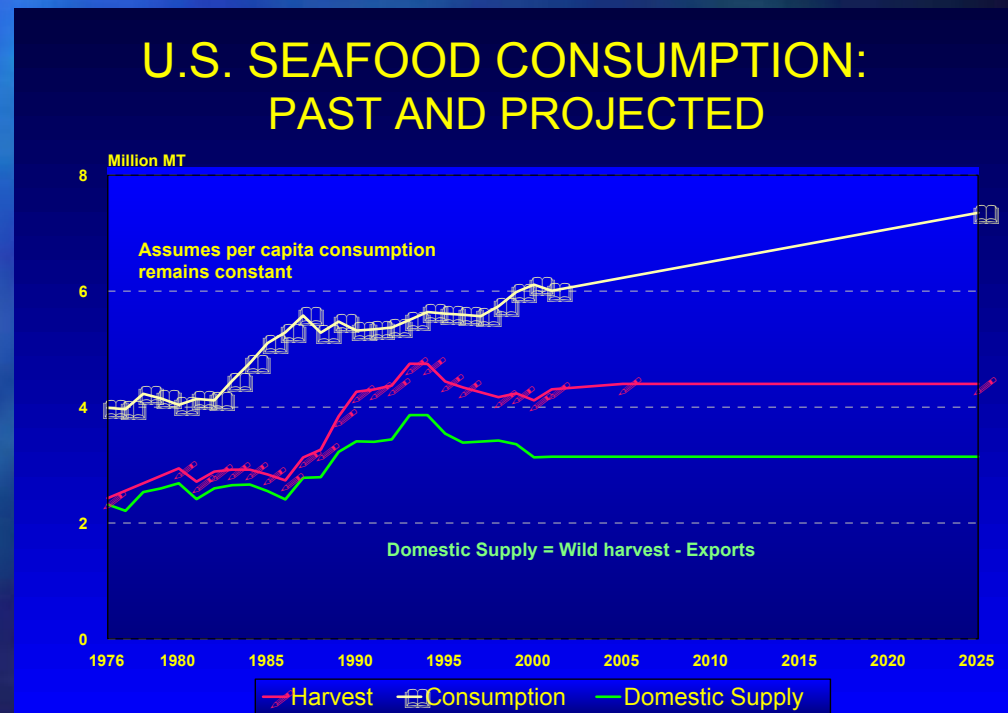


# TOP AQUACULTURE PRODUCERS, 2001



# *U.S. Seafood Production*

- Wild harvest production static
- Domestic production doesn't meet demand
- Over 40% of imports are cultured
- U.S. farmed production limited



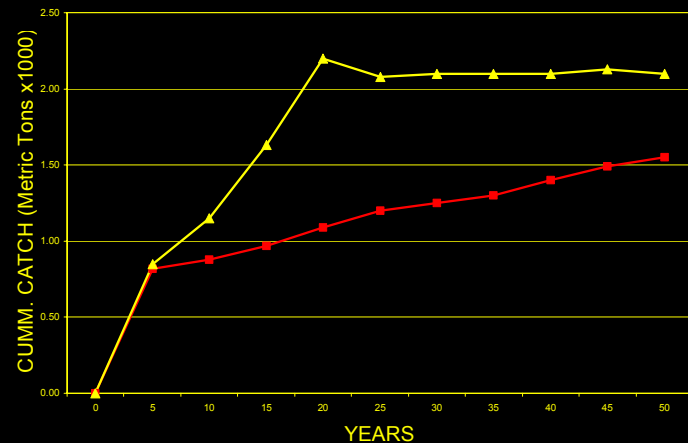


# Stock Enhancement

- Accelerated rebuilding of fisheries stocks
- Recovery of endangered species
  - Redfish Lake Sockeye
  - Turtles in Texas
- Global activities
  - Japan
  - Australia
  - Norway



## *A NMFS Tale of two Rockfish...*



Fifty years of simulated annual catches using two management strategies for Pacific ocean perch. Both assume catch set at  $F=0.06$  for fifty years.. The red line assumes no releases. The yellow line assumes stocking 5 million juveniles a year for the first 12 years only. (Polovina, 1991)

# *CONSTRAINTS TO DEVELOPMENT*

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- No clear regulatory authority to locate in the EEZ
- Little Federal/State support for research and development
- Science of marine fish stocking (replenishment) undeveloped
- Environmental Impacts not well understood
- Competing uses of the coastal zone



# *NOAA PLAN FOR AQUACULTURE DEVELOPMENT IN THE US EEZ*

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- Regulatory Framework for the EEZ
- Enhancement and Endangered Species
- Food Security
- Environmental Standards

# *Regulatory Framework for the EEZ*

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- Develop legislation to allow for leasing in the EEZ
- Streamlined application procedures with other Federal agencies
- Identify aquaculture development zones to facilitate industry development
- Exemption from certain regs
- Ensure paper trail

# *Enhancement and Endangered Species*

- Some species will require up to 100 yr rebuilding time
- Endangered species may disappear without intervention
- Need to develop scientific protocols for ecologically responsible stocking
- SCORE initiative
- Partnership with Hubbs for rockfish



*Rebuilding on their own: How long does it take to get to MSY?*

- Coastal Lingcod - 8 years
- Inland Lingcod - 50+ years
- Bocaccio - 32 years
- POP - 43 years
- Cowcod - 95 years
- Canary rockfish - 57 years



# *Food Security: Assuring a Safe Seafood Supply*

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- U.S. is 3<sup>rd</sup> largest seafood importer – over \$ 10 billion in 2000 and 2001
- Lack of compliance with U.S. requirements (e.g., chloramphenicol)
- Imports subject to tampering
- R&D for culture systems, technology, feeds, disease, etc.

# *Regulatory Framework for the EEZ*

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- No process for leasing or permitting in the EEZ
- Multiple regulatory authorities (DOC, EPA, ACOE, etc.)
- No designated sites
- No guarantee of farmed fish and shellfish ownership
- MSA restraints re size and possession limits